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PROPHYLAXIS OF MENTAL DISORDER.*

BY

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THE widespread activities now in being to improve national health, the appointment of a Royal Commission on Lunacy Law, and the recent movement in favour of mental hygiene make this an appropriate opportunity for a full discussion of the prevention of mental disorder. In the first place it is a matter not only of general professional interest and intimately connected with measures calculated to prevent all forms of disease, but is wrapped up also with child welfare, education, training, and even housing conditions. It is a branch of public health, and both of these two fields of activity will benefit from closer co-operation. A discussion such as this, though in a special section, should be on very broad lines, for it deals with the highest reactions of the human organism, in fact with its reactions as a whole, whereas in other branches of medicine one organ or system of organs chiefly, though by no means entirely, attracts our attention. The practical recommendations as to the desirable steps to be taken must be largely determined by the relative importance attached by experts in mental disease to the etiological factors, which still demand much more patient research. It is therefore perhaps right that the opening paper should be presented on general grounds, and it is certainly essential that the special knowledge of members of this Section should be brought to bear on a subject of national importance. The discussion will have an educational value for those of us who are interested rather in general medicine than in this special and rapidly progressive branch; personally, I would express my debt to your President, Sir Frederick Mott, Dr. Hubert Bond, and others.

It must be remembered that probably the bulk of patients in ordinary practice present some disorder, however slight, of mind, conduct, or feeling, spoken of as "nerves," neurasthenia, night terrors, and that in this early stage of con-

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ditions responsible for such an enormous amount of distress proper treatment is most successful. Failure to deal efficiently and sympathetically with these minor disorders, which no doubt depends on the very scanty instruction available in the medical schools on this subject, may well, as Dr. Lewellys Barker (1925) has pointed out, account for some of the vogue of Christian Science and other forms of irregular practice. The public, as well as ourselves, require education as to the way in which mental abnormalities should be regarded, and should be impressed with the similarity of mental and bodily disorders, and with the commonplace that prevention is better and cheaper than cure, so that the earliest departures from the normal should at once be communicated to the doctor and remedial measures started without delay, this step eventually becoming as much a matter of course as a visit to the dentist. The enormous economic benefit to the country of such preventive treatment needs no insistence.

Etiology.

The measures appropriate for the prevention of mental disorder are necessarily determined by the numerous forms of mental unsoundness. The multiplicity of the causes and of their divisions—hereditary, environmental, physical or bodily, and purely mental or psychological—complicates the problem of prevention, which naturally appeals in different aspects to the biologist, the physician, and the psychologist. The biologist regards heredity as specially important, the physician changes in the nervous system, and the psychologist independent alterations in the mental processes. The influence of environment has a bearing on all three views—the hereditary, the neurogenic, and the psychogenic. Heredity and environment are closely interwoven in the causation of mental disorder, as disposing and exciting factors respectively, the disease being the morbid reaction resulting from a complex set of external agents stimulating "an inborn low margin of physiological resistance," and the abnormal response being determined either by the nature of the external stimuli or by the condition of the nervous and mental mechanisms. The special form of nervous disorder is not inherited as such, but there is a low state of vitality; this is like the condition of affairs in the toxic idiopathies in which a tendency to hypersensitiveness is handed down, so that one of several manifestations, such as asthma, may occur, though different forms may appear in parent and child. The position is well met by G. Draper's definition of the word "constitution," so vaguely and variously used in the past, as "the aggregate of hereditarial characters, influenced more or less by environment, which determines the individual's reaction, successful or unsuccessful, to the stress of environment." Although, generally speaking, more can be done in the way of modifying the environmental con-

ditions—namely, by all that is included under the term "mental hygiene"—measures to counteract gross hereditary disease, such as syphilis and cretinism, must not be neglected. Abnormal mentality may obviously be due to change, transient or permanent, in the nervous system, just as a bandage over the eye or a plug of wax in the ear will obscure sight or hearing; but this does not exclude the purely psychical factor of mental disorder in other cases, however unsatisfying this may be from the standpoint of the materialistic microscopist.

The influence of *heredity* in genius, crime, and insanity is fully recognized, and terrible examples, such as the Jukes family, in which the 540 legitimate and 169 illegitimate descendants of the original Max Jukes (born ?1730), provide the most striking proof of the heredity of crime and of its relation to prostitution and mental disease. Half the cases of mental disorder have been ascribed to hereditary factors. This factor necessarily carries with it as means of prevention the difficult subjects of eugenics, sterilization of the defective, and birth control. Without being reactionary we may wisely hesitate before advocating strict eugenic measures of breeding, which, if carried to their logical conclusions, might seriously impair the future progress of the race; for if the inborn tendency to variation, which is responsible both for mental weakness and for intellectual ability, were thus removed, a dead level of standardized men, like "Robots," might conceivably result. Until, therefore, further research into this subject with its difficulties, especially the limitation of available material for the investigation of Mendelian factors in mental disorders, has thrown more light on a question which obviously concerns very gravely the liberty of the subject, delay would be desirable. In the meanwhile the segregation of mental defectives provided in the Mental Deficiency Act (1914) has diminished the propagation of the handicapped child, and has to a limited extent met the question of sterilization of the mentally defective. Birth control, though a eugenic method, inasmuch as it tends to improve environmental conditions of the offspring, is less drastic and difficult than standardized propagation of the human race, and is, of course, widely practised, though far more often among those whose offspring would be of value to the race than among the very poor, and thus has a dysgenic influence. But the Society for the Provision of Birth Control Clinics has established centres in Walworth and North Kensington, where poor married women are given advice on the safest methods of birth control by lady doctors. The arguments against this practice are the risk of a falling population and the moral one that promiscuity will be favoured; the latter is the same as that which has made many sincere and well meaning people strenuous opponents of the prevention of venereal disease by "packets."

While fully recognizing the indubitable influence of *hereditas damnosa*, it is not only natural but advisable to avoid exaggeration of such a fatalistic attitude by critical consideration of the limitations of this conception. Indeed, from the standpoint of preventive medicine it would be wise to minimize the view that heredity is so all-powerful that in the face of such a history all that can be done is to fold our hands in resignation. For a firm belief in the influence of heredity has much to answer for in stifling research. In opposition to the belief that from his birth man is endowed with instincts which rigidly limit and control his conduct throughout life there is the more or less mechanistic conception that man's actions are determined by his response and adaptation to environmental stimuli, and that thus his instincts of self-preservation, sex, and the herd, are modified in either a good or an evil direction. What is often assumed to be hereditary may be really acquired in early youth as a result of the family environment and irresistible imitation which Dr. C. H. Bond compares with an infection. An hereditary tendency may remain latent unless and until some stress is brought to bear on the individual, who then manifests symptoms of mental disorder, which an absolutely normal person would escape. The stress which is the exciting factor acts in virtue of the psychopathic predisposition, and may be (1) physical—trauma, infection, toxic factors, unhealthy environment, unsuitable diet; or (2) psychical—worry, emotional strain, overwork. As mental disorder may occur in its absence, hereditary tendency is not an essential factor in the etiology of insanity, though no attempt to minimize its importance as a disposing influence will be made. As would be expected, hereditary taint appears to manifest itself earlier in life than do mental disorders due solely to stresses—toxic, infective, or physical; Carswell estimated that while 43 per cent. of all cases have a constitutional basis, 67 per cent. of cases arising between the ages of 15 and 45 years are thus explained.

Chronic infective foci, and the resulting toxaemia, by diminishing the resistance of the body and by producing degenerative changes in the nervous and endocrine systems, constitute an important factor both disposing to and even determining mental disturbance. Auto-intoxication due to oral, tonsillar, and intestinal infection is sometimes an obvious factor, though often the local conditions—for example, intestinal stasis or oral sepsis—are present without the appearance of general or mental symptoms; but this is probably because the resistance of the soil or the constitution as a whole, and especially of the nervous system, is sufficiently good to prevent any degenerative effects. This resistance may be broken down by chronic toxaemia. On the other hand, responsible focal infections, especially disease of the accessory nasal sinuses (P. Watson-Williams), may remain latent and escape detection. Cotton (1923) believes

that the so-called functional psychoses are due to a combination of many factors, the most constant of which, and from the therapeutic point of view the most important, is cellular disturbance in the cortex due to the toxins of focal infections; as evidence bearing on this he (1915) has found fatty degeneration in the cerebral cortex in the toxic-infective psychoses. He stated in 1919 that without infection the chances of psychosis developing is very slight. Focal infections of the teeth, tonsils, alimentary tract and its appendages—the gall bladder and appendix—and of the genito-urinary organs are now recognized as important in causing mental disorders. At the New Jersey State Hospital, Trenton, the number of discharges increased from 37 to 85 per cent. after removal of oral and tonsillar infections (H. A. Cotton, 1923). Watson-Williams has argued that systemic symptoms, including mental disorder, such as melancholia, may depend on infection of the accessory nasal sinuses, which being slight and not shown by profuse production of pus are unaccompanied by a protective polymorphonuclear leucocytosis.

The effects of alcoholism and syphilis and the means of obviating these factors, though not always carried out, are well recognized, and therefore need not be further discussed. It is very different with regard to epidemic encephalitis, for since its widespread prevalence, dating from 1918, it has been responsible for an amount of mental disorder the permanency and seriousness of which, though difficult at present accurately to estimate, are extremely menacing. It is probably due to a filter-passing micro-organism; more information is needed as to the prevalence of carriers and their detection on the lines adopted by the Rockefeller Institute in regard to acute poliomyelitis, and as to the problems of immunization and of specific curative treatment. But the questions involved in the relative importance of the viruses composing the "herpetico-encephalitic" group (Levaditi, Nicolau, and Poincloux) require elucidation before further work can be done; Flexner and Amoss are investigating these preliminaries. Possibly in the future a test for the detection of susceptibility on the lines of the Schick test in diphtheria and of the Dick test in scarlet fever may be elaborated, so that prophylactic treatment, when such is available, can be utilized for the susceptible. At present no remedy of value is known, and the need for further research is therefore urgent.

An interesting question is the possible responsibility of primary deficiency of the endocrine elements of the gonads for mental disorder. Sir Frederick Mott has shown that changes in the sex glands occur in dementia praecox and other forms of mental disease, but it is difficult to disprove the view that the endocrine maldevelopment is concurrent, and, indeed, part of the general bodily arrest of development or precocious degeneration. Endocrine

deficiency of congenital origin—for example, cretinism—may to some extent be prevented by ante-natal treatment and environmental precautions. Endocrine inadequacy arising later in life, in so far as it depends on focal infections and toxaemia, should become less frequent with improvement in the general health of the nation as the result of school clinics and dental benefit in connexion with national health insurance.

The claims of physical and psychical factors as responsible for the causation of mental disorder have been much discussed, and no attempt to balance them will be attempted, for, indeed, they are too intimately related. The psychopathic element may be inborn as an hereditary disposition, or may be acquired during early childhood, and in either event may remain latent until and unless activated by physical or psychical causes. On the other hand, mental disorder may arise without any discoverable physical cause and be cured solely by psychotherapy; so while admitting to the full that a physical cause may elude the most exhaustive clinical and laboratory investigation, the case for purely psychogenic origin in such cases is a strong one.

Educational Dangers at Schools.

Overpressure in schools on clever boys likely to gain kudos for their teachers by winning scholarships is a widely recognized but somewhat neglected danger, and not infrequently leads to mental sterility in later life if—as is not uncommon in brilliant boys—there is an hereditary taint to some kind, usually mild in character, of mental disorder. Precociously able boys will, of course, be in forms with boys considerably older, and therefore will be likely to share the same hours of sleep; whereas they require more, not only on account of their more tender years, but because of their mental activity. This should always be borne in mind by masters, who should see that such boys receive the quota of hours in bed corresponding to their age and not to their place in the school list. The importance of sufficient sleep and rest in the prevention of mental strain and breakdown is a point to which the medical men attached to public schools are, I believe, fully alive, and their help should be invaluable. The need of an ample allowance of sleep for growing boys is often overlooked, and should be insisted on, as Dr. T. D. Acland did so vigorously twenty years ago; the early school (from 7 to 8 a.m.), especially in the winter, may be of value from a disciplinary point of view, but hygienically it is open to serious question. At one school the question when early school should be stopped is wisely determined by the hours of sunrise. About puberty, especially in rapidly growing boys, the cry for physical rest and a generous allowance of sleep is shown by the way they lounge about in easy chairs, and their apparent "laziness" in getting up in the morning in

the holidays—a defensive reaction of real worth. That such a boy is "inattentive," "fidgety," "could do better if he chose," generally has the benefit of a bad to indifferent report, and "goes off his game," is not unnatural, and the wise parent should possess his soul in patience. Schoolmasters must recognize this and pay more attention to the personality of the human boy and not concentrate on his mental products. Boys are not sent to school to win testimonials to the transient success of a forcing system. The senseless and harmful punishments of writing out hundreds of lines and keeping boys in after school hours should be regarded as relics of barbarism.

Great benefit both in the character of the work done and in the boys' health may result from providing or prolonging rest phases between classes, and, good though physical exercise is, a watch for staleness due to overfatigue in rapidly developing boys should always be kept. To prevent breakdown and future mental disorder the master and the psychologically awake school doctor should consult and consent to work in unison rather than, as is not infrequently the case, arrive at a compromise while looking in the divergent directions of intellectual triumph, short-lived though it may be, and of *Mens sana in corpore sano*. Unfortunately, in the great public schools the assistant masters usually begin their career more or less as amateurs, and have to pick up wisdom while the parents wait; whereas they should obviously receive as much training in their profession as do the teachers in the elementary and in some secondary schools. The desirability of taking a degree in the history and theory of education, or of obtaining a diploma or certificate in the principles and practice of teaching from the Board of Education, might well be considered. The pamphlet *The Practice of Health*, drawn up by medical experts in accordance with the resolution of the Headmasters' Conference in December, 1923, that every boy during his time at school should receive instruction in hygiene, is a valuable guide, and should help schoolmasters to do much for the physical welfare of their pupils.

Parents depute much of their responsibility to schoolmasters, who therefore have considerable influence in making or marring character and future life, though the contact is not so close as in the home. Bullies are not always confined to the boy's companions, and he who, with a thoughtless devotion to maintaining discipline, incidentally destroys a boy's self-respect should have a millstone hanged about his neck and be cast into the sea. At private schools boys naturally get more individual attention, but much care should be exercised in deciding on the age and stage of development at which a boy should be transferred to a public school where the strain for a highly strung boy of 13 years may exert a deleterious influence.

Treatment.

Mental Hygiene.—Although organized machinery for public health in this country dates from the middle of last century, and Sir John Simon's efforts at the Local Government Board, psychiatric prophylaxis, or mental hygiene, has lagged far behind, and instead of this country leading the way, as it formerly did in the prevention of ordinary disease, America has set us an example, largely by the enthusiasm of Mr. Clifford W. Beers. Our National Council for Mental Hygiene was founded in 1922, and has various subcommittees quietly at work, especially that on the prevention and early treatment of mental disorders. The possibilities included in mental hygiene are extremely numerous, and concern the home conditions and influences bearing on young children and the education in this respect of the parents; for the impress made by environment on the young mind is of the utmost importance, and, as Henry Head has truly said, the mental hygiene of infants should be as carefully regulated as the ventilation of their nurseries. Faulty environment in the home, even such as parental incompatibilities, can often be tactfully set straight by social service, and it cannot be too emphatically stated how much mental hygiene hopes to owe to non-professional help in this matter. Mental hygiene, especially in the developmental period of life, is the first line of defence in the prevention of mental disorder, and its want or failure is shown by the need for early treatment in psychiatric clinics, which in their turn should preserve many patients from the necessity of having to enter mental hospitals. The potential influence of heredity may be prevented from becoming active by wise adjustment of the environment. Further, the treatment of early and recoverable cases affords the greatest hope of diminishing the incidence of confirmed insanity. The patients suitable for mental hygiene include those who do not require certification, such as neurasthenics, the subjects of anxiety neuroses and phobias, and also those who might be certified, but need not because they are willing to submit to treatment or are "non-volitional." As the National Council for Mental Hygiene pointed out in evidence before the Royal Commission, information as to the number of patients needing early treatment can be obtained from the reports of the Board of Control, the Prison Commissioners, the Registrar-General's return of attempted suicides, and the returns of the Principal Medical Officer of Health to the Ministry of Health as to the mental sequels of encephalitis epidemica. The social adjustment of children suffering from the after-effects of epidemic encephalitis is a problem of growing importance for the workers in mental hygiene.

Early treatment in psychiatric clinics attached to general hospitals has many advantages: the education of the public to the recognition that mental disorder is intimately connected with bodily disease and not a distinct and mysterious

condition, such as possession by devils; from the patient's point of view the avoidance of the stigma attaching in the public mind to residence in a mental hospital and especially to certification; the cure of acute cases without certification; the great facilities of complete pathological, surgical, and biochemical investigation of all problems presented by the individual patients, such as focal infections and disorders of metabolism; the advantage to the progress of medicine as a whole, and particularly with regard to the prevention of mental disease, for which object association with pediatric clinics and social service is of special value, by bringing psychiatrists and general physicians into close and constant touch; and here incidentally it may be mentioned that comparatively few lecturers on mental disorders in the medical schools are as yet members of the clinical staff of the attached hospitals, though this is a logical sequence of the desired closer union of psychiatry with clinical medicine. Lastly, and not least, the treatment of mental cases in general hospitals will provide a much more satisfactory means of educating students, not only in mental disorders, but also in the understanding of the psychological aspects of everyday practice. In this respect the Anglo-Saxon race has seriously lagged behind the Continental countries. From a report of an investigation made by the National Council for Mental Hygiene it appears that out of 237 hospitals in England, Scotland, and Wales there are arrangements of any kind for early mental treatment in 24 only. A psychopathic clinic is incomplete unless it has attached to it beds for the more satisfactory treatment of the patients, and should be on the same footing as other special departments.

The main objection to the treatment of early cases in the wards of a general hospital is the inconvenience caused by noisy, delirious, and violent patients in a general hospital. That these difficulties can be surmounted has been shown by Dr. J. D. Comrie's analysis of 500 cases of early mental disease treated in the Royal Infirmary, Edinburgh, where, however, the conditions are not those of the ideal psychiatric clinic. Of course discretion must be exercised as to the class of case admitted, and after some two weeks or so it becomes clear whether improvement from such treatment is probable or whether the case should be transferred to a mental hospital. It is an obvious advantage to have the wards for the mental patients in an annexe and not actually in the same building and under the same roof as the general wards; they should be surrounded with gardens so as to make provision for open-air treatment, and connected by a covered corridor with the main hospital. In hospitals in the centre of London and large cities it may be impossible to provide grounds of sufficient size around a psychiatric block. As in the Henry Phipps Psychiatric Clinic, attached in this manner to the Johns Hopkins Hospital and under the directorship of Professor

Adolf Meyer, the wards should be generally so arranged as to allow classification and separation of incompatible types of patients; to accomplish this and to watch the patients adequately so as to prevent accidents and suicidal attempts, a larger nursing staff than in the ordinary hospital wards is necessary. Other examples of successful psychiatric clinics are the Psychopathic Hospital, Boston, Mass., Professor C. Winkler's Neuro-Psychiatric Institute at Utrecht, and the Maudsley Hospital in close contact with King's College Hospital.

The psychiatric clinic, which in order to disarm popular prejudice should be labelled "Nervous and Psychiatric Department," of a general hospital, should be closely connected up with a university, so as to provide facilities for research and for teaching medical students, and it would appear that in addition students interested in the experimental and other aspects of psychology would benefit from the opportunities thus provided. While a central laboratory in connexion with a psychiatric department attached to a general hospital and a university is the ideal arrangement, psychiatric or mental clinics situated at a distance from university centres should of course have clinical laboratories for routine work.

The prevailing note in the care of early and recoverable patients should be sympathetic conciliation rather than the forbidding coercion—cheerfulness and helpfulness instead of severity and repression.

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